

Sample Responses

P.307 # 1-6, 7, 5.6
12/12

1. I can tell a relation is linear:

From a description in words: When there is a constant rate of change, for example, the cost increases by \$12 per person.

From a set of ordered pairs: When the ordered pairs are listed so their first elements are in numerical order, a constant change in the first elements results in a constant change in the second elements.

From a table of values: When a constant change in the independent variable in column 1 results in a constant change in the dependent variable in column 2.

From an equation: When no variable in the equation has an exponent greater than 1. ex. $y = mx + b$

From a graph: When the graph of the relation is a straight line.

2. Rate of change = $\frac{\text{change in dependent variable}}{\text{change in independent variable}}$

I can determine the rate of change in different ways.

From a description in words: It is the number that indicates how a quantity changes; for example, in Example 3b, the total cost increases by \$50/h, so \$50/h is the rate of change.

From a set of ordered pairs: I choose two ordered pairs, then divide the change in the second elements by the change in the first elements.

From a table of values: I choose 2 rows in the table, then divide the change in the elements in the second column by the change in the elements in the first column.

From an equation: It is the coefficient of the independent variable.

From a graph: I choose 2 points on the line, then calculate the change in each variable. Then I divide the change in the dependent variable by the change in the independent variable.

rate of change
 $y = mx + b$